

APPENDIX B

PUBLIC SCOPING MEETING MATERIALS

Sign-in Sheet

Fact Sheet

Comment Form

Presentations

Display Boards

Quartzsite Solar Energy Project

Scoping Meeting Sign-in Sheet



January 2010

Location: _____

PLEASE SIGN IN

Name (please print clearly)	Agency/Organization (if applicable)	Address	City/State	Zip Code	E-mail

All comments received by Western become part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person who wishes to review the public record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.

Project Overview

The Quartzsite Solar Energy Project is a solar power project proposed to be located approximately 10 miles north of Quartzsite, Arizona. The project will utilize SolarReserve's innovative concentrating solar power technology with storage, and have the capability to produce a nominal 100 megawatts (MW) of energy. If all permits are received by December 2010, the plant would be available for operation in 2013. The project will help meet the increasing demand for clean, renewable electrical energy in the US and help reduce reliance on fossil fuels and associated greenhouse gas emissions.

The proposed facility will use concentrating solar power (CSP) technology, and be equipped with an integral storage system. The technology generates power from sunlight by focusing energy from a field of sun-tracking mirrors called heliostats onto a central receiver. Liquid salt, which flows similar to water when melted, is circulated through the receiver, collecting the energy gathered from the sun. The heated salt is then routed to an insulated storage tank where it is stored with minimal energy losses. When electricity is to be generated, the hot salt is routed to heat exchangers to produce steam used to generate electricity in a conventional steam turbine cycle. The salt is then sent to the cold salt storage tank, ready to be reheated by the sun and reused the following day. The salt storage technology was demonstrated successfully at the U.S. Department of Energy-sponsored 10-MW Solar Two project near Barstow, California.

SolarReserve's unique CSP technology offers several important benefits. First, our technology stores renewable energy and can extract it on demand. The stable electricity supply reduces grid reliability impacts from other intermittent renewable energy sources. Second, the stored energy in the salt can be used to produce electricity even when there is no sunlight, if needed. This is beneficial in Arizona where peak electricity demand can continue after the sun goes down and other solar resources can no longer operate. In addition, with highly efficient heat transfer properties, the liquid salt provides a cost-effective way to store renewable energy. Finally, SolarReserve's CSP technology does not require the use of natural gas and associated combustion emissions to maintain operating stability as some other solar technologies do.

Quartzsite Solar Energy Project

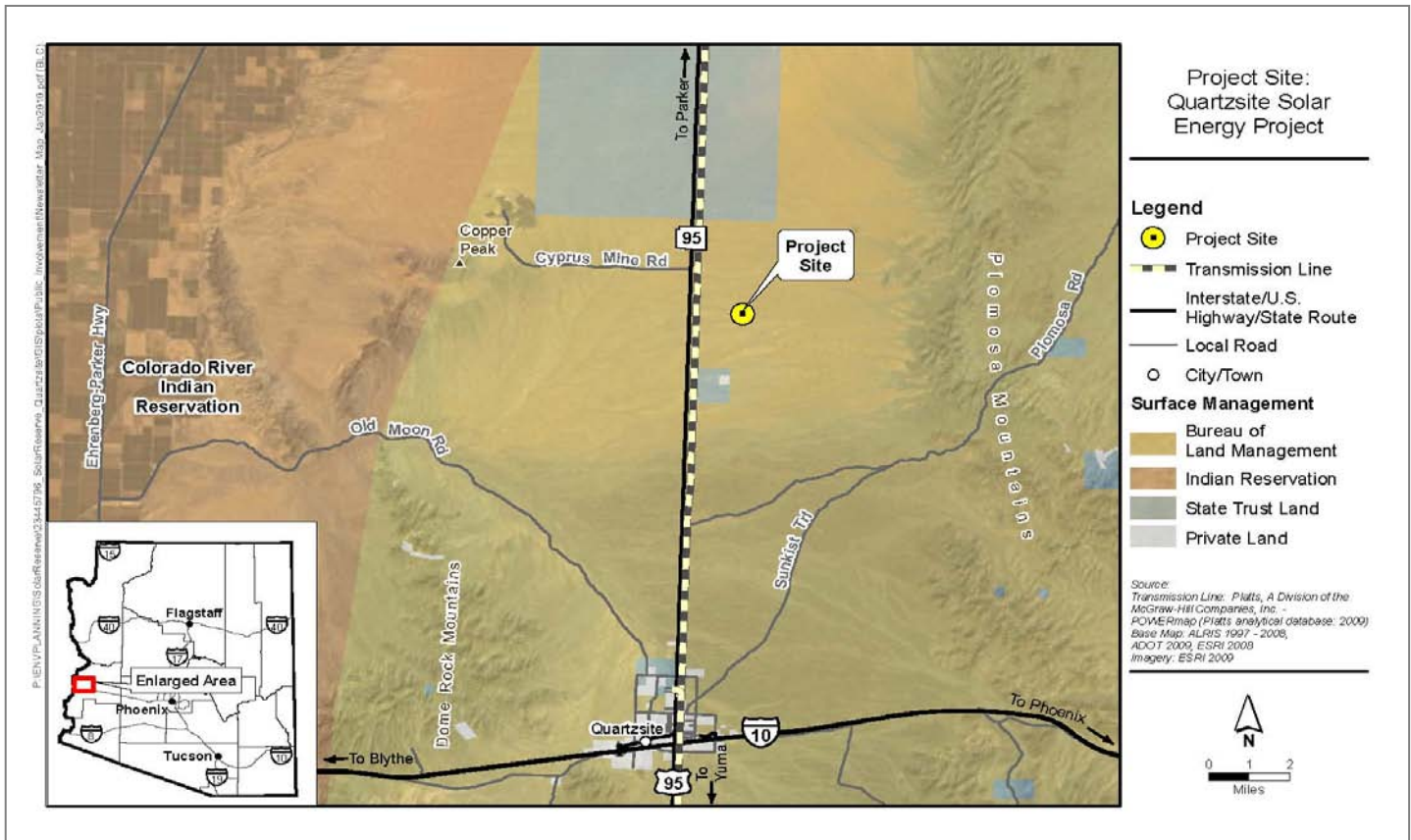
Location	North of Quartzsite, AZ
Technology	Concentrating Solar Thermal with Storage
Size	100 MW
Water Use	1,000 to 1,300 acre-feet/yr
Area	~1,450 Acres (BLM land)
Transmission	.5 miles ¹
Fuel	Sunlight

¹ Measured from the edge of the heliostat field to a new substation located next to Western's existing transmission line

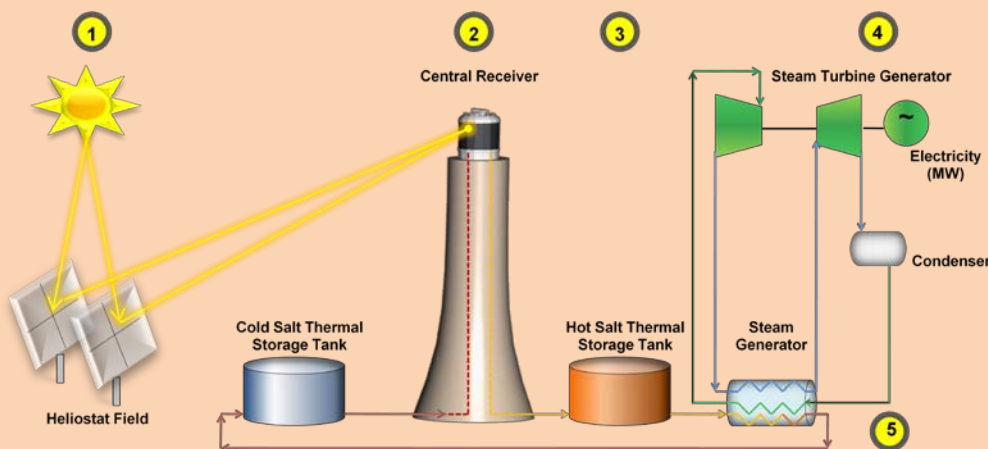


"... we should be using Nature's inexhaustible source of energy—sun, wind & tide ... I would put my money on the sun and solar energy. What a source of power! I hope we don't have to wait until oil and coal run out before we tackle that."
-- Thomas Edison

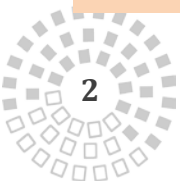
Project Location



Process Flow Description



1. Sunlight is concentrated and directed from a large field of heliostats to a receiver on a tall tower.
2. Liquid salt from the cold salt tank is pumped through the receiver where it is heated to 1050 °F.
3. The heated salt from the receiver is stored in the hot salt tank.
4. Hot salt is pumped from the hot salt tank through a steam generator to create steam, which drives a steam turbine, generating electricity.
5. Cold salt at 525 °F flows back to the cold salt tank.



Frequently Asked Questions

Why is this project important? The project is being developed to provide a sustainable, renewable, cost-effective source of electricity using a unique technology which can capture solar energy throughout the day, store the energy, and schedule electricity production to occur whenever it is needed-during hours of peak electricity demand, or during evening or nighttime hours. The storage system allows the project to generate a stable power supply that will enhance electricity grid stability and facilitate wider use of intermittent renewable sources such as wind energy.

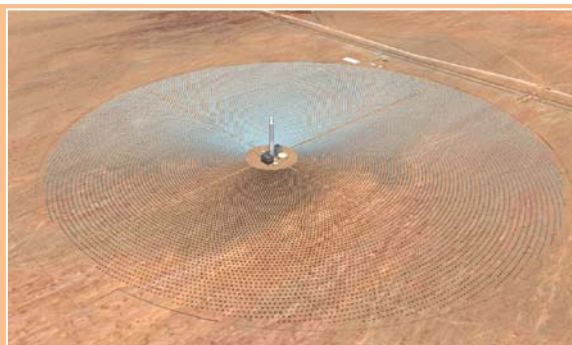
Why here? Arizona has some of the best solar resources available in the world. Solar energy can supplement other resources to serve the country's need for clean, affordable domestic energy supplies and help sustain continued economic development. This site is in a largely undeveloped area with good site access and excellent access to Western's existing transmission system.

Why are you proposing to build this project on public lands? The Bureau of Land Management (BLM) manages the public lands for multiple uses but recognizes that a significant number of public lands have levels of solar radiation suitable for utility-scale solar power plant development. Development of renewable energy resources is considered a beneficial public use of these lands and BLM's policy is to facilitate environmentally responsible renewable energy development, consistent with national and state leadership goals for renewable energy. While the size of the project is large (approximately 1,450 acres for the facility) compared to conventional power projects, it represents less than .09% of all BLM-administered lands in La Paz County.

What other BLM policies or plans should be considered?

The BLM utilizes Resource Management Plans (RMP) to help direct decisions on appropriate uses for public lands. The BLM Yuma Field Office has published a Final Environmental Impact Statement for a draft RMP for the area encompassing the project. If the RMP is enacted as expected, the project will lie within a large area to be designated as a Dunes Wildlife Habitat Management Area. SolarReserve, Western, and the BLM, are committed to ensuring that the project complies with the RMP goals for the area and will thoroughly analyze the requirements and means of compliance with the RMP during the EIS process. The RMP document is available for review at the following website link:

www.blm.gov/az/st/en/prog/planning/yuma_plan/reports/prmp.html



Architectural rendering of SolarReserve's proposed Rice Solar Energy Project in CA

What will the new power plant look like? The project will have a large circular field of mirrors (heliostats). Near the center of the field will be a tall, central receiver tower and the power block. The tall tower increases the efficiency of the plant and ensures that the large array of heliostats can focus the solar energy onto the receiver mounted on top of the tower. During the EIS process, visual simulations will be prepared to show how the project will look to viewers from several locations and other analyses will be conducted to ensure compliance with BLM visual resource management policies.

Key Project Benefits

The Quartzsite Solar Energy Project will:

- ❖ *Help meet growing demand for clean, renewable energy sources.*
- ❖ *Incorporate energy storage which provides operating stability for the electricity grid and a cost-effective way to meet Arizona's peak electricity demand profile.*
- ❖ *Boost the Local Economy by creating up to 450 construction jobs at peak and about 45 permanent operating jobs, and also significant tax revenues that will benefit the local community and region.*





Approvals needed to construct the project:

Quartzsite Solar Energy (QSE) has submitted an interconnection request to Western Area Power Administration (Western) to connect the proposed facility with Western's existing power transmission system. QSE has also submitted a right-of-way application to the Bureau of Land Management (BLM) to site the proposed project on BLM-administered lands. Consideration of these applications is considered a major federal action. In order to grant authorization for the project to proceed, Western, as lead federal agency, and the BLM, as a cooperating agency, require preparation of a detailed environmental impact statement (EIS) to identify potential impacts of the project and ensure compliance with applicable policies.

During the EIS process, all potential project impacts to land, water, air, and biological species will be evaluated as well as alternatives, social, cultural, visual and economic factors. The public and other agencies and stakeholders are given several opportunities to comment during this process. If the project receives the approvals to proceed, a Record of Decision is prepared to document the selected alternative to be developed and any measures required to mitigate environmental impacts. A long-term ROW (Right of Way) grant would then be issued to allow construction of the project facilities.

Participation in the EIS Process:

To participate in the EIS process, please visit www.wapa.gov/transmission/quartzsitesolar.htm, e-mail quartzsitesolarEIS@wapa.gov, and monitor local publications for notices of upcoming public meetings.

Will I be able to see the tower at night? During the day, the receiver (which is mounted on top of the tower) will glow as it absorbs solar energy. The receiver will not operate during the evening or at night when solar energy cannot be collected. The plant will also be designed with downcast lighting to minimize light pollution at night and use of lighting within the plant will be limited only as necessary for worker safety. The FAA will require daytime and nighttime lighting systems on the tower (similar to those required by the FAA for communication towers).

How tall will the tower be? The tower will be a concrete structure, approximately 538 feet high, on which a receiver approximately 100 feet tall is mounted. A maintenance crane will be mounted on top of the receiver, for an overall height of 653 feet. Plant efficiency increases with taller towers. The proposed tower height was established by an economic optimization study to determine the lowest cost of electricity production.

Will it be noisy? The solar collection field (heliostats) will operate whenever there is sufficient solar resource to collect energy. The heliostats will quietly track the sun during the day but will not operate after sundown. Because the facility is equipped with storage, the facility can generate electricity at any time, even during evening hours. Because the power block is in the middle of the large heliostat field, however, about a mile from the plant boundary, we do not expect noise levels to be significant based on studies performed for other projects. This issue, however, will be analyzed during the EIS process to ensure that noise does not result in impacts.

Will the facility require water and how much will be used?

SolarReserve recognizes that water use is of increasing concern in the Southwest, yet the type of cooling system chosen impacts efficiency significantly. We believe it is important for the US to have more highly efficient renewable energy projects and may consider wet cooling to maximize system performance if we are confident that the project will not deplete water resources or impact other users. After performing a careful study to assess water resources in the project area, we have proposed wet cooling for this project and are projecting use of approximately 800 to 1100 acre-feet of groundwater annually for the cooling system and 200 acre-feet for other plant uses. Our preliminary studies indicate that our proposed use of water will not impact the water resources of the Town of Quartzsite (which are 'upbasin') and that Colorado River water would not be used. Our proposed use of water will be thoroughly analyzed during the EIS process to ensure there are no significant impacts to water resources or other users during the lifetime of the project.

What benefits will this project provide? The benefits of this solar facility are to: 1) produce a stable supply of renewable energy in an environmentally-responsible manner, 2) enhance the local economy through jobs and tax revenues, and 3) boost revenues for local businesses, since those who construct, operate and maintain the new plant will likely purchase goods and services and live in and around Quartzsite, Arizona.

Quartzsite Solar Energy Project

Scoping Comment Form



January 2010

At this early stage in the National Environmental Policy Act process, Western is holding scoping meetings to help identify the range or scope of issues related to the Quartzsite Solar Energy Project. The issues identified by the public during scoping will be considered and addressed during preparation of the Environmental Impact Statement (EIS). Please take a few minutes to answer the questions below and return this sheet to the sign-in table or the address on the back of this form. Comments would be most helpful if received on or before the scoping period closing date of February 16, 2010.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing list.

Meeting Location: _____

Your Name: _____

Name: _____

Address: _____

Address: _____

City/State/Zip: _____

City/State/Zip: _____

Please check all that apply:

- ☐ Add my name to the mailing list for this project
- ☐ Withhold my name/address to extent allowed by law (only for persons not representing organizations)*

* All comments received by Western become part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person who wishes to review the public record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law. However, all submissions from organizations or businesses, and individuals identifying themselves as representatives or officials of organizations or businesses, will be made available for public inspection in their entirety.

How did you hear about this meeting?

(This helps us to know how best to provide project information to the public)

- ☐ Newsletter
- ☐ Newspaper Advertisement
- ☐ Newspaper Article
- ☐ Website
- ☐ Other

1. Please describe any issues or concerns that should be addressed in the EIS.

2. Please provide any additional comments you may have on the project.

Comments may be submitted in several ways.

Email: quartzsitesolarEIS@wapa.gov

Fax: (602) 605-2630

Or mail to: Ms. Mary Barger, NEPA

Document Manager

Western Area Power

Administration

P.O. BOX 6457

Phoenix, Arizona 85005-6457

For more information, please visit the project website at www.wapa.gov/transmission/quartzsitesolar.htm

Mary Barger
NEPA Document Manager
Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85005-6457

Quartzsite Solar Energy Project

PUBLIC SCOPING MEETING

January 2010

January 26, 2010 – Yuma, Arizona

January 27, 2010 – Parker, Arizona

January 28, 2010 – Quartzsite, Arizona

NEPA Process

- QSE has two pending applications with Federal agencies (Western and BLM)
- National Environmental Policy Act (NEPA) requires Western and BLM to analyze potential impacts of the proposed project
- Other environmental laws also will be complied with

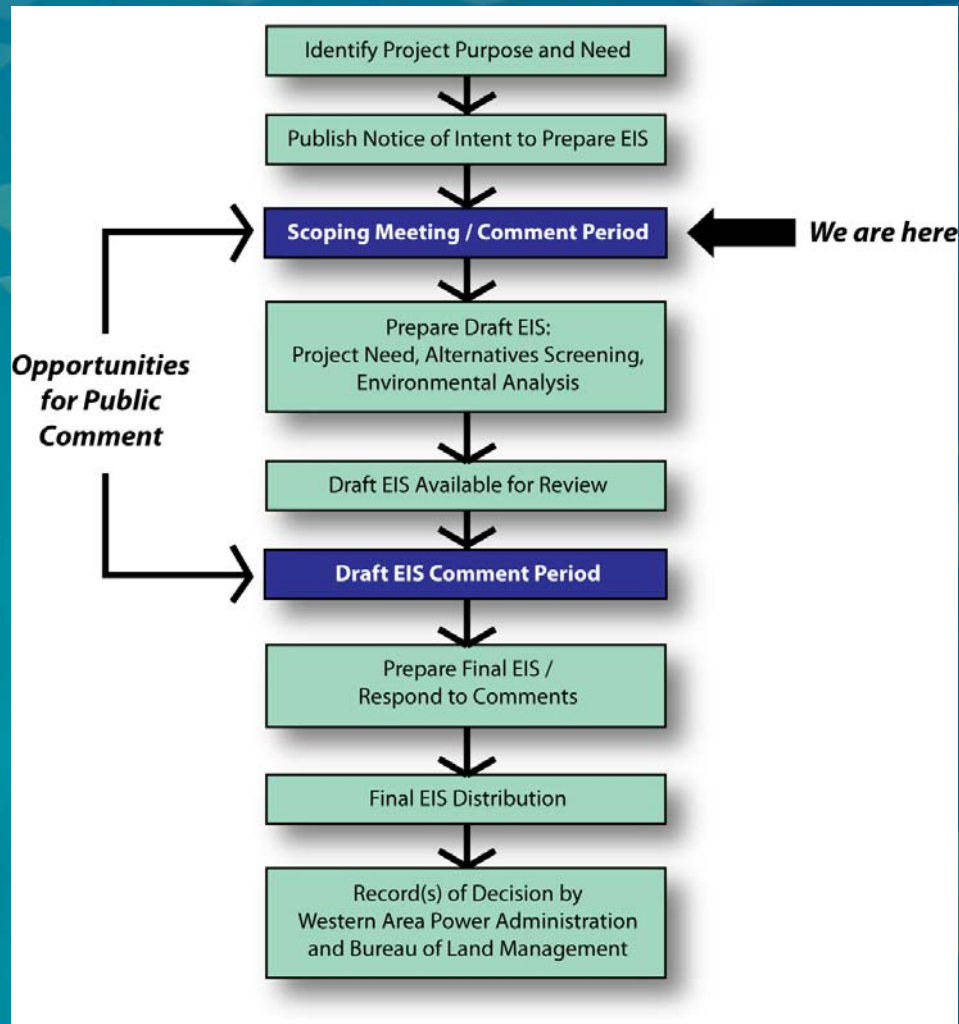
Western – Lead Federal Agency

- Responding to request to interconnect with Western's power transmission system
- Will develop the EIS and coordinate with other interested agencies
- Substation would be owned, operated, and maintained by Western
- BLM right-of-way grant for substation would be issued to Western
- Following NEPA process, Western will issue a Record of Decision

BLM – Cooperating Agency

- Right-of-way application to construct and operate a solar project on federal land administered by BLM
- BLM Yuma Resource Management Plan
 - Dunes Wildlife Habitat Management Area
 - Visual Resource Management Class III
- Following the NEPA process, BLM will issue a Record of Decision

NEPA Process



Purpose of Public Scoping

- To introduce and describe the proposed project
- To provide the public, tribes, and other interested parties and agencies the opportunity to express comments and concerns
- To identify issues that should be evaluated in the Environmental Impact Statement (EIS)
- To identify feasible alternatives that should be evaluated in the EIS

Natural Resources to be Analyzed

- Vegetation
- Wildlife and habitat
- Special status species
- Water resources
- Geology, minerals, and soils
- Paleontological (fossil) resources
- Air quality



Cultural Resources to be Analyzed

- Prehistoric sites
- Historic sites
- Traditional cultural places, particularly of importance to Native Americans



Human Environment Resources to be Analyzed

- Land uses
- Recreation
- Visual resources
- Noise
- Social and economic conditions
- Environmental justice
- Public health and safety



Proposed NEPA Schedule



How You Can Participate

- Sign in at the scoping meeting
- Provide comments by filling out a comment form at the scoping meeting
- Or, sending comments by:
 - Mail
 - E-mail
 - Fax
 - Website
(www.wapa.gov/transmission/quartzsitesolar.htm)
- Submit comments by February 16, 2010

Contact Information

- Ms. Mary Barger, NEPA Document Manager
- Western Area Power Administration
P.O. Box 6457
Phoenix, AZ 85005-6457
- Fax: 602-605-2630
- QuartzsitesolarEIS@wapa.gov
- Phone: 602-605-2524

How You Can Participate

- Public scoping - ends February 16
- Public meetings and 30-day review period on Draft EIS
- Mailing list and newsletter updates throughout the project



How to Make Your Comments Most Effective

One comment can make a difference.

- Identify specific information that should be considered during the EIS process.
- Offer a specific idea of how to address a particular concern.
- Speak to a project team member if you have any questions on project information.



Presentation on Solar Technology

SOLARRESERVE™

Quartzsite Solar Energy Project, Scoping Meetings
JAN 26-28TH, 2010

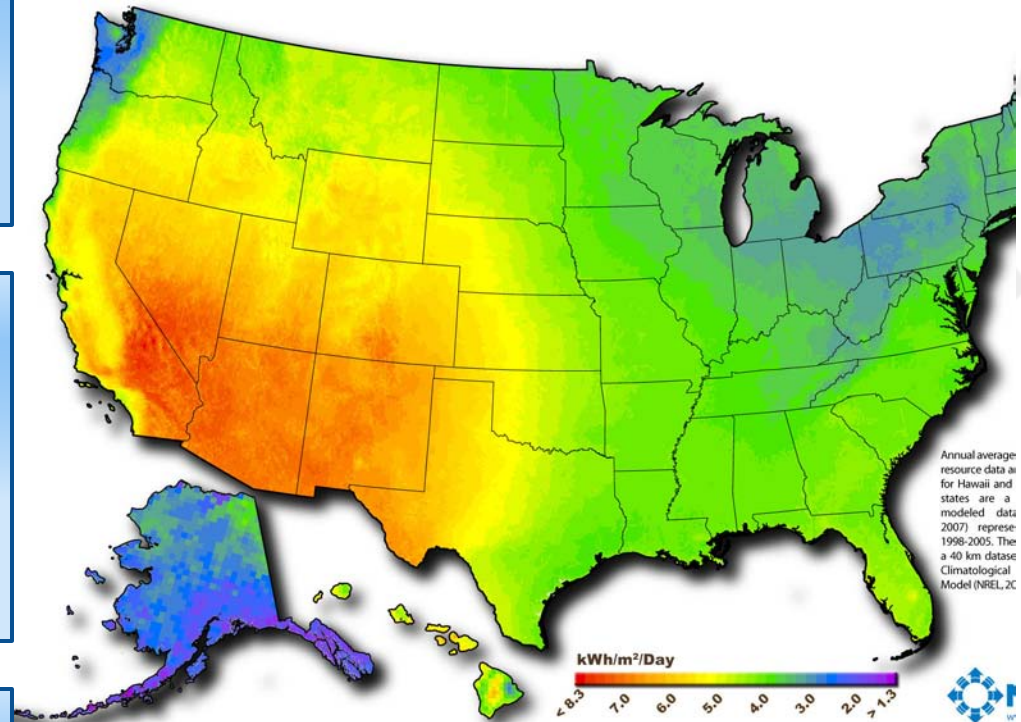
WHY SOLAR?

- Demand for Renewable Energy

- *Promote energy independence*
- *Reduce reliance on fossil fuels and greenhouse gas emissions*

- Availability of Solar Resource

- *The Southwestern US has one of the best solar resources available in the world*



Author: Billy Roberts - October 20, 2008

This map was produced by the National Renewable Energy Laboratory for the U.S. Department of Energy

U.S. Concentrating Solar Resource

- *Solar energy tends to be coincident with peak electricity demand*
- *Adding storage allows electricity to be generated after sun goes down*

TWO PREVALENT TYPES OF SOLAR-TO-ELECTRIC TECHNOLOGIES

Concentrating Solar Thermal (CSP)

- Solar thermal uses mirrors to concentrate sunlight
- The concentrated sunlight heats a fluid to high temperatures
- A turbine or engine is used to convert heat to electricity.
- Two types which are prevalent: Tower; Trough
- Can accommodate storage



Tower Technology



Trough Technology



Nellis Air Force Base Solar Plant
"Largest PV plant in US"
(14 Megawatts; 20% capacity factor)

Solar Photovoltaic (PV)

- Sunlight is converted to direct current (dc) electricity in a semiconductor material.
- An inverter converts the dc electricity to alternating current (ac).

WHAT DISTINGUISHES US...

Tower Technology (Central Receiver)

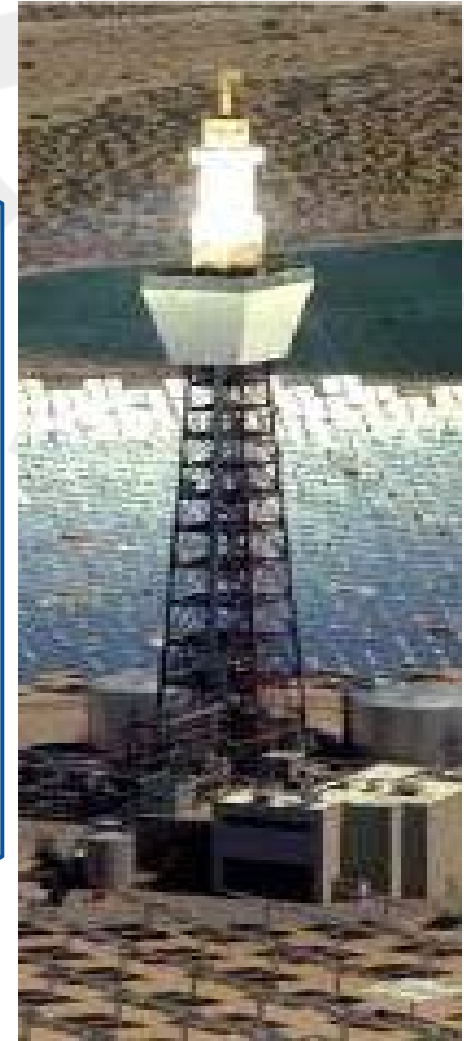
- High temperatures
- High Cycle efficiency
- Cost-effectiveness of storage

Storage

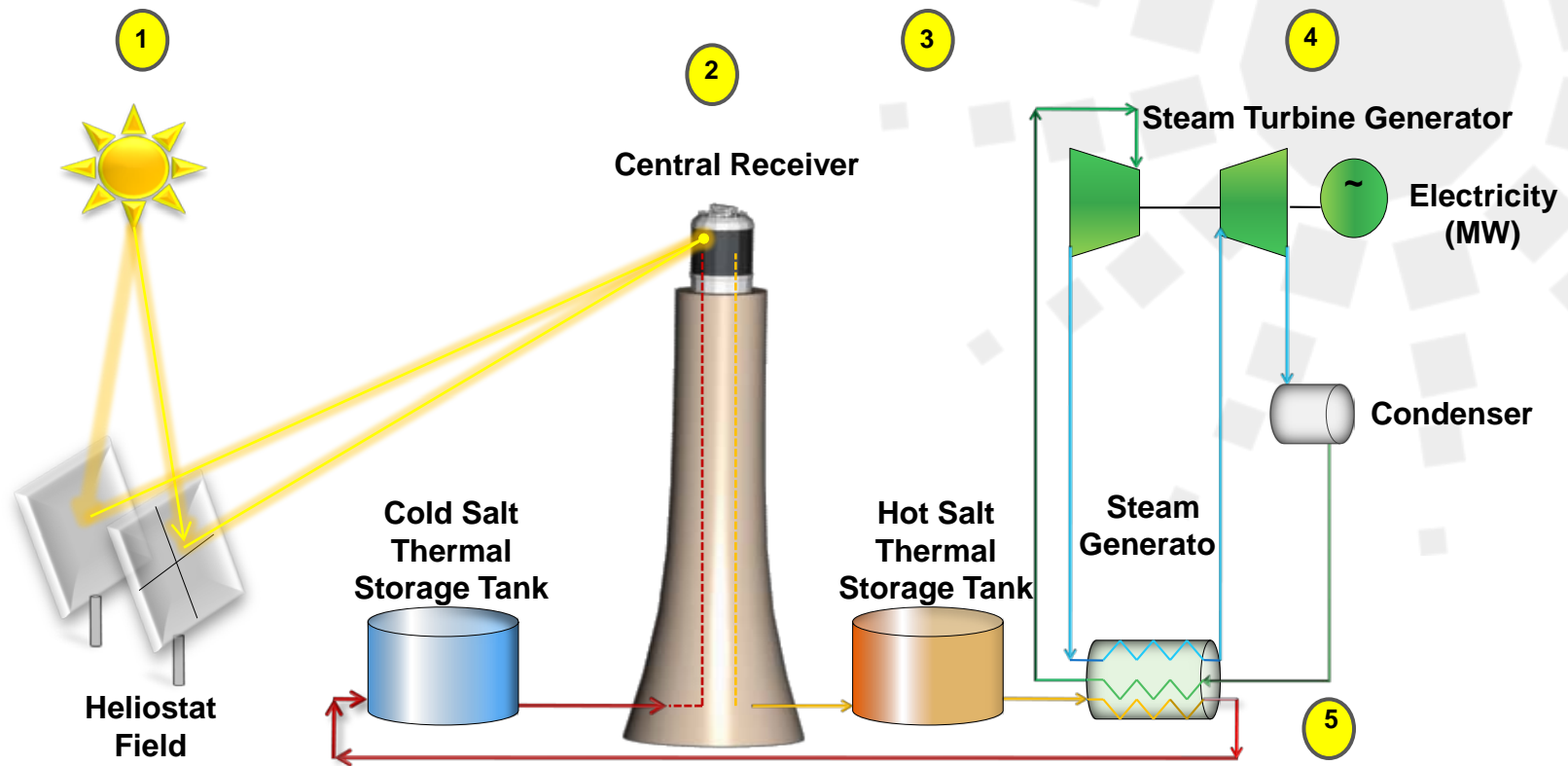
- Operating stability
- Flexibility

Demonstrated Technology

- Tower and salt storage effectiveness demonstrated at Solar Two facility in Barstow, CA



PROCESS TECHNOLOGY



PROCESS FLOW DESCRIPTION

1. Sunlight is concentrated and directed from a large field of heliostats to a receiver on a tall tower.
2. Liquid salt from the cold salt tank is pumped through the receiver where it is heated to 1050 °F (566 °C).
3. The heated salt from the receiver is stored in the hot salt tank.
4. Hot salt is pumped from the hot salt tank through a steam generator to create steam, which drives a steam turbine, generating electricity.
5. Cold salt at 525°F (288 °C) flows back to the cold salt tank.

DOE TECHNOLOGY VALIDATION AT SOLAR TWO



Demonstrated sun tracking throughout the year



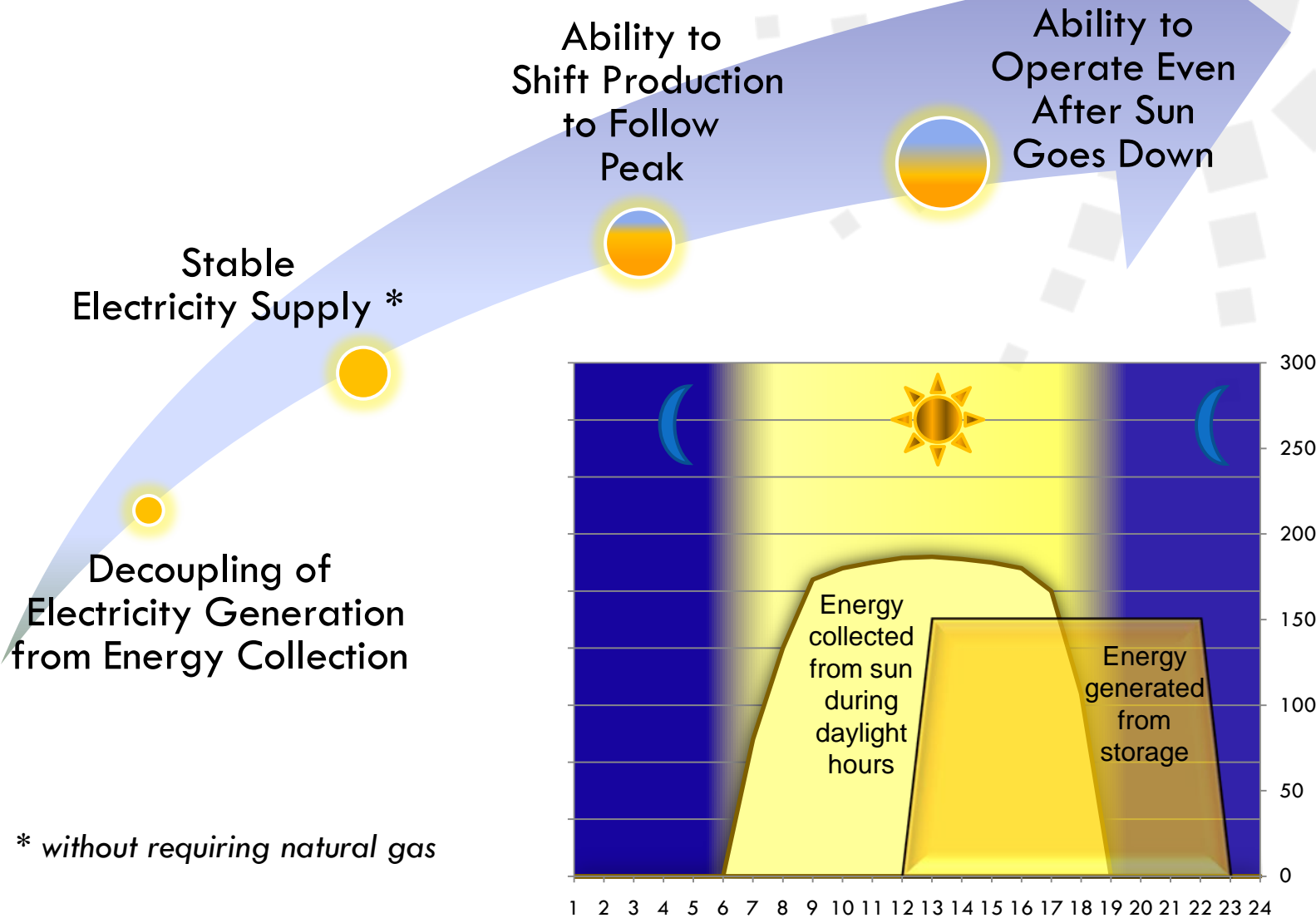
Demonstrated electric power up to 24 hrs/day



"Over the three-year operating lifetime, daily operation of Solar Two became relatively routine, with various performance records broken on a fairly regular basis."

DOE SunLab Brochure (Mar 2000)

WHY IS OUR TECHNOLOGY IMPORTANT?



HEAT TRANSFER AND STORAGE MEDIUM: SALT

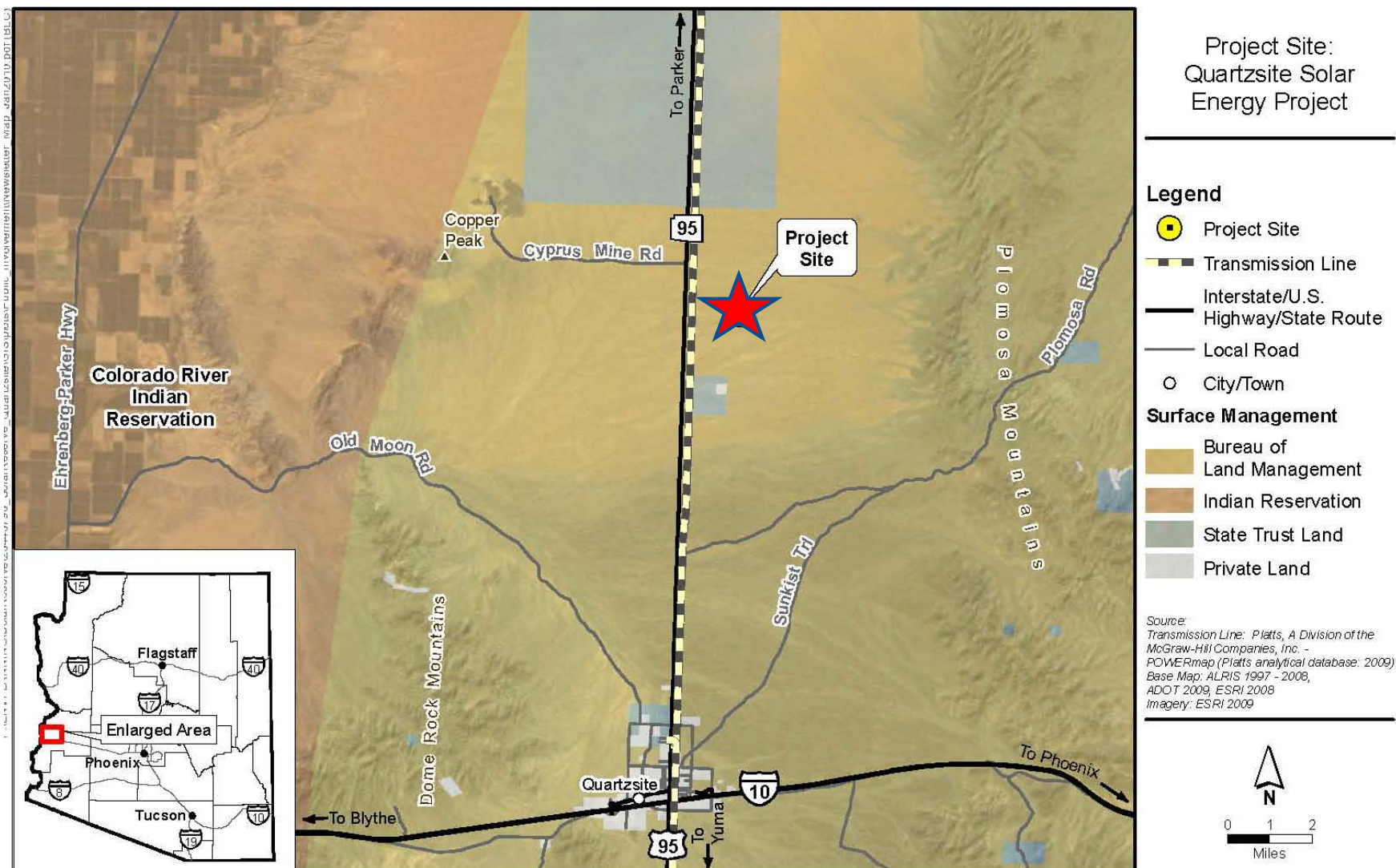
- High purity sodium nitrate and potassium nitrate salts
- In addition to being used in fertilizers, is also an effective heat transfer and storage medium
- Ability to store large amounts of heat in a small volume



- When melted, has flow properties similar to water

PROPOSED QUARTZSITE SOLAR ENERGY PROJECT

PROJECT LOCATION



PROJECT DESIGN FEATURES

- ✓ **100 MW Capacity**

With storage, can extend operating hours with into evening, which fits Arizona's electricity profile
- ✓ **Tower**

One 653 foot tower topped with central receiver ; FAA Determination has been obtained for initial site proposed (location may be shifted to reduce impacts to Dunes)
- ✓ **Interconnection Access**

Proximity to Western's existing transmission line
- ✓ **Cooling System**

Wet cooling proposed; project not located in area where groundwater use is restricted due to shortages

SITE SELECTION CONSIDERATIONS

- ✓ Solar Resource
- ✓ Interconnection Access
- ✓ Environmental Considerations
- ✓ Stormwater Drainage
- ✓ Site Access
- ✓ Environmental Considerations (Dunes, Visuals, Sensitive Species)
- ✓ Surrounding Land Uses (Military Operating Areas, proximity to residences, etc.)

Our siting approach is to reduce application boundaries after completion of environmental studies and surveys.



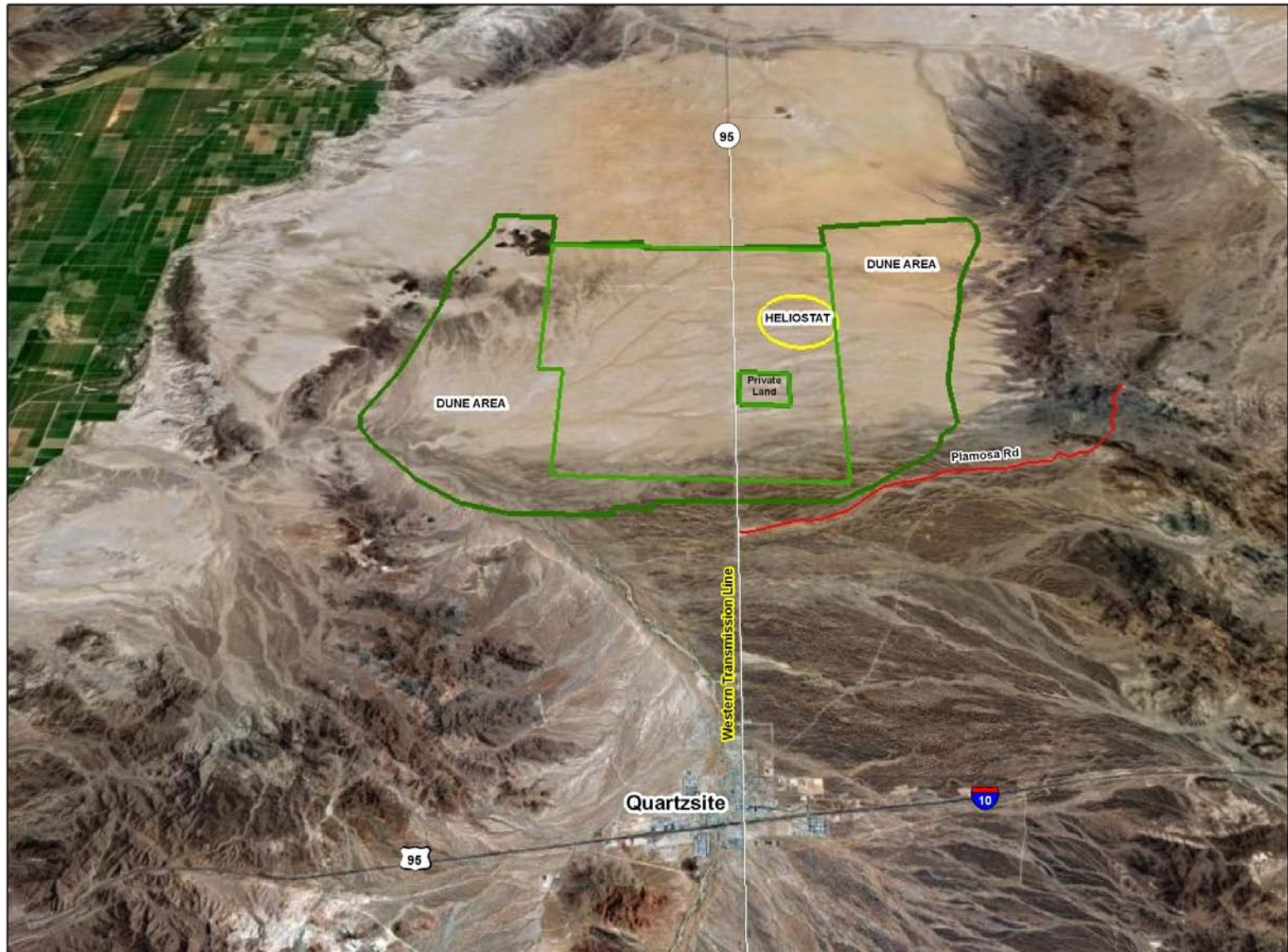
CLARIFICATION ON LAND USE AREAS

• Area of Permanent Disturbance for Facility	1,450 Acres
• Area Allotted for New Western Substation	3 Acres
• Area of Temporary Disturbance	90 Acres
• Area Currently Under SF 299 Application (Note 1)	25,200 Acres
• Dunes Wildlife Habitat Management Area (Note 2)	57,500 Acres

Notes

1. Area will be reduced during EIS process
2. Permanent disturbance plus Substation area represents 2.5% of Dunes WHMA

CLARIFICATION ON LAND USE AREAS: MAP



SOLARRESERVE TEAM MEMBERS AVAILABLE FOR QUESTIONS

JULIE WAY – Director of Development

BILL GOULD – Chief Technology Officer

BOB ANDERS – Engineering (WorleyParsons)

DEBBIE BUILDER – Plan of Dev (WorleyParsons)

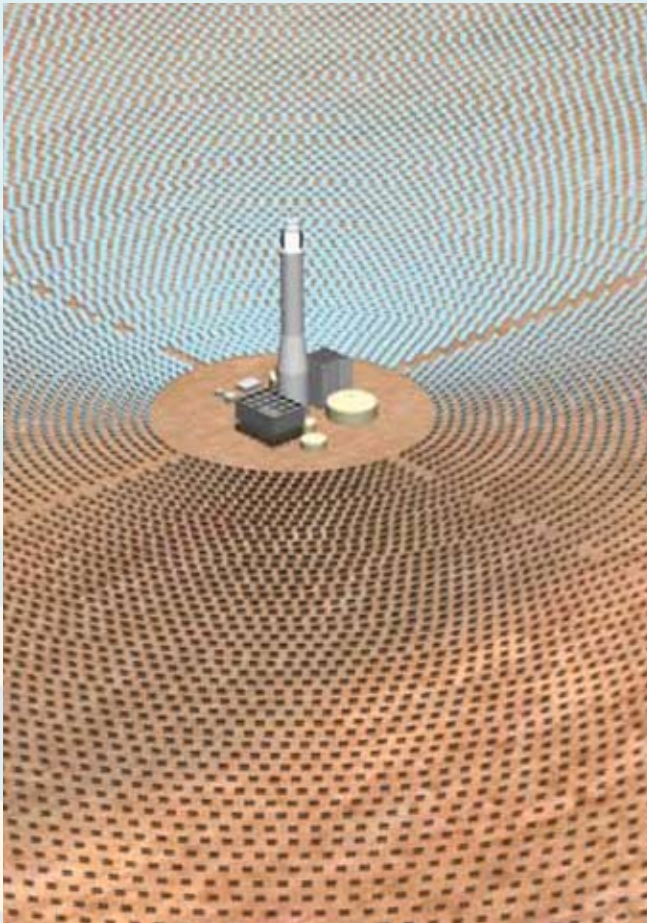
CHERYL LEUTJEN- Environmental Consultant

SCOTT GALATI – Outside Legal Counsel

ROBERT GLADDEN – Outside Legal Counsel

W E L C O M E

Quartzsite Solar Energy Project Scoping Meetings – January 2010



Tuesday, January 26

BLM, Yuma Field Office
2555 E. Gila Ridge Rd.
Yuma, AZ

Wednesday, January 27

Blue Water Casino
11300 Resort Dr.
Parker, AZ

Thursday, January 28

Quartzsite Town Hall
465 N. Plymouth Ave.
Quartzsite, AZ

Scoping meetings will be held between 6:00 p.m. and 8:00 p.m. in an open house format with a brief presentation at 6:30 p.m.

Roles and Responsibilities

Western Area Power Administration



- Lead federal agency preparing the EIS to comply with NEPA.
- Western owns and operates the 161kV transmission line to which the Project will connect and deliver power into the electrical grid.

Bureau of Land Management (BLM)



- Cooperating Agency under NEPA, BLM will provide information for environmental analysis.
- BLM manages the land on which the project is proposed and will process the right-of-way application for the project.

SolarReserve



- As the project proponent, SolarReserve will develop, construct, and operate the project.

URS



- Third-party NEPA contractor assisting Western with preparation of the EIS.

Project Description

- Located on approximately 1,450 acres of BLM administered land
- Facility will provide 100 megawatts (MW) of electricity
- Facility components include:
 - 538-foot concrete tower topped by a 100-foot solar receiver and maintenance crane (total height 653 feet)
 - Access roads
 - Overhead 230kV transmission line
 - Operations and maintenance (O&M) building
 - Electrical substation
 - Temporary lay down area

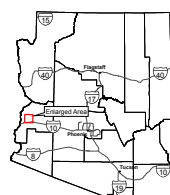
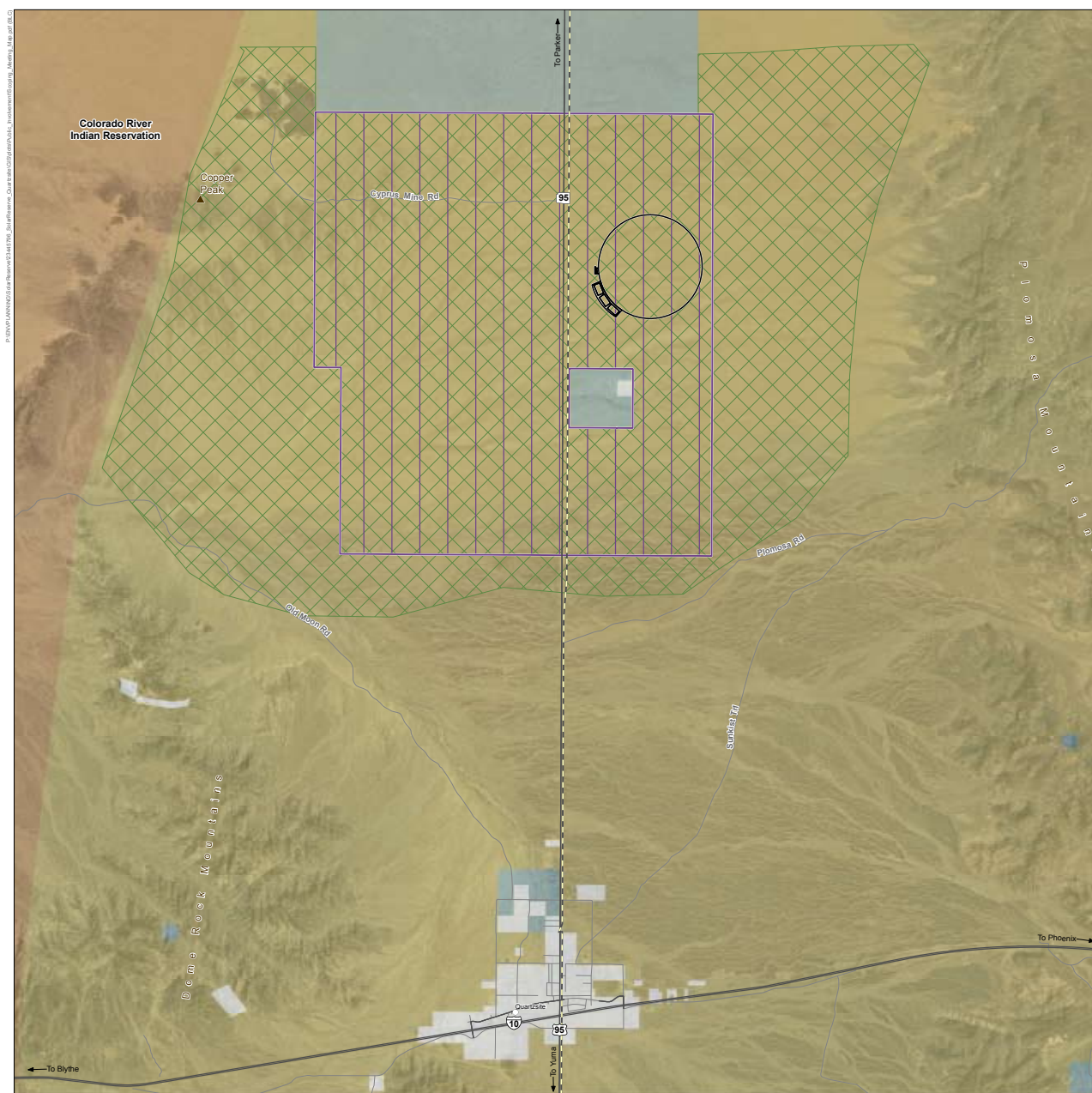


Artist rendering of typical facility

Quartzsite Solar Energy Project



Project Location



Legend

- Proposed Project Site
- Quartzsite Solar Energy Right-of-Way Application Boundary
- Dunes Wildlife Habitat Management Area
- Transmission Line

- City/Town
- Mountain Peak
- Interstate/U.S. Highway/State Route
- Local Road

Surface Management

- Bureau of Land Management
- Indian Reservation
- State Trust Land
- Private Land

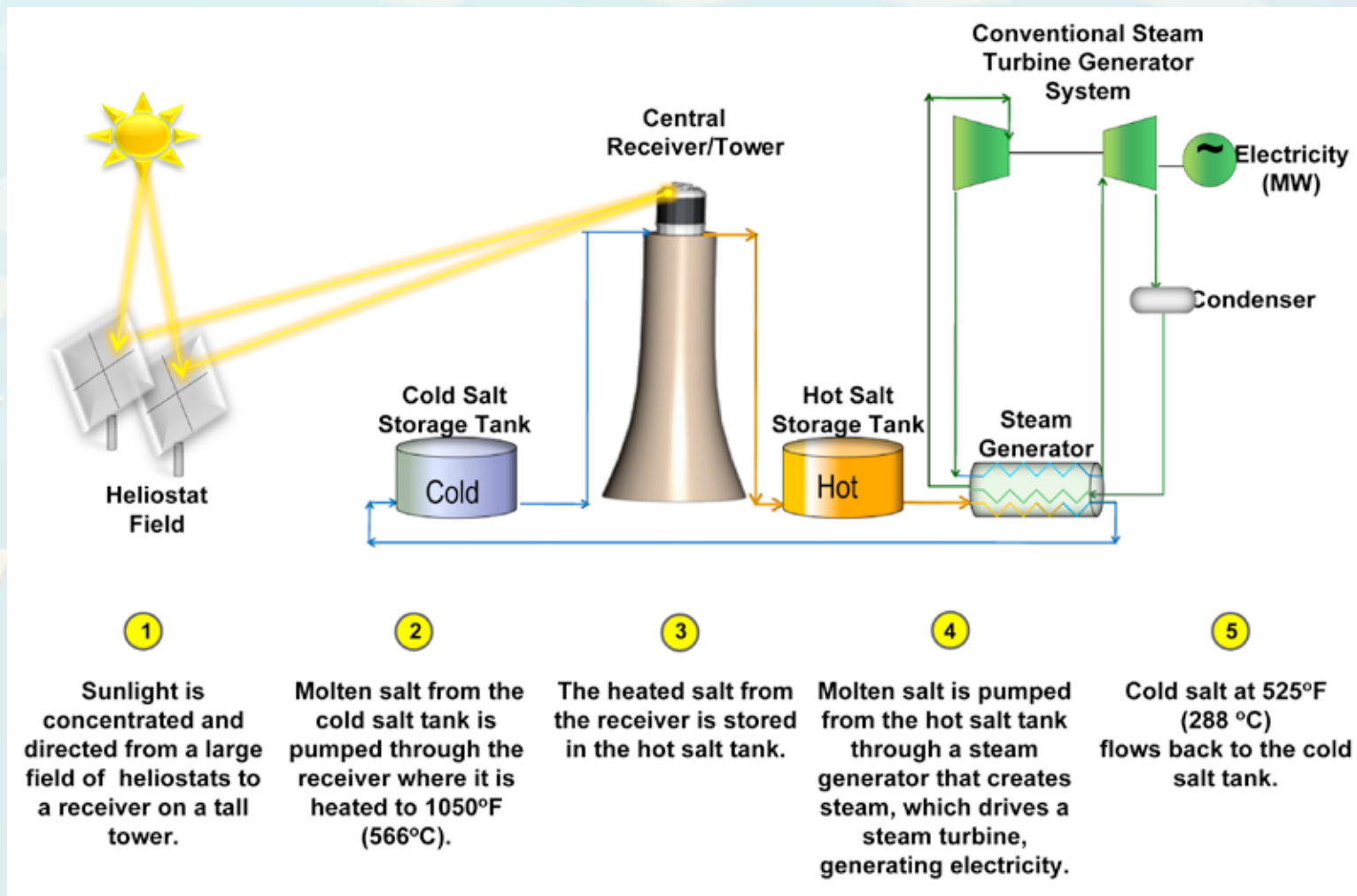
Project Site:
Quartzsite Solar
Energy Project



Source:
Project Site and ROW Boundary: URS 2010
Dunes Wildlife Area: BLM 2006
Transmission Line: Platts, A Division of the
McGraw-Hill Companies, Inc. -
POWERmap (Photo analytical database: 2009)
Base Map: ALRIS 1997 - 2008,
ADOT 2009, ESRI 2008
Imagery: ESRI 2009

Quartzsite Solar Energy Project

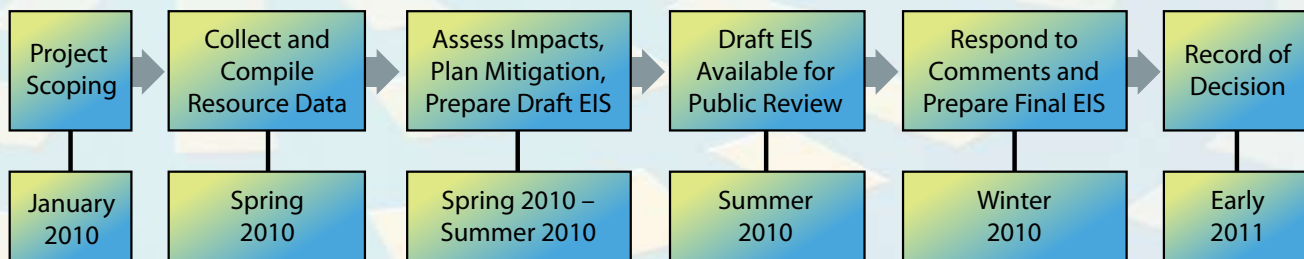
Technology Overview



NEPA Process

- **Scoping:** a process that helps identify the significant issues related to a proposed project.
- The scoping period for the Quartzsite Solar Energy Project will be from January 14, 2010 through February 16, 2010.
- Public comments will be accepted throughout the NEPA process.

Draft EIS Schedule



EIS Studies

The EIS process includes analysis of potential impacts on the environment and ways to mitigate, or reduce, these impacts. Topics that may be addressed in the EIS include:



Land Use



Social and
Economic Conditions/
Environmental
Justice



Visual
Characteristics



Noise



Recreation



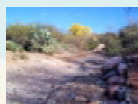
Interference with
Communication
Signals



Air Quality



Geology/
Soils



Water



Vegetation



Wildlife



Protected Species



Cultural
Resources

This list may not be entirely inclusive of all topics that will be addressed in the EIS.

How to Provide Comments

Comments may be submitted in several ways.

- Return comment form at this meeting
- Submit written comments to:
 - Fax: (602) 605-2630
 - Email: **quartzsitesolarEIS@wapa.gov**
 - Mail to:

Ms. Mary Barger, NEPA Document Manager
Western Area Power Administration
P.O. BOX 6457
Phoenix, Arizona 85005-6457

For more information, visit the project website
www.wapa.gov/transmission/quartzsitesolar.htm.



How to Provide Comments

To make your comments most effective, please:

- Identify specific information that should be considered during the EIS process.
- Offer a specific idea of how to address a particular concern.
- Speak to a project team member if you have any questions on project information.